



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

November 10, 1997

George R. Meckfessel, EIS Project Manager  
Bureau of Land Management, Needles Resource Area  
101 West Spikes Road  
Needles, CA 92363

Dear Mr. Meckfessel:

The U.S. Environmental Protection Agency (EPA) has reviewed the Final Environmental Impact Statement (FEIS) for the **Castle Mountain Mine Expansion Project, San Bernardino County, California**. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act. Our review indicates that the FEIS adequately addresses most of our comments regarding the Draft Environmental Impact Statement (DEIS), which were sent to you in a letter dated May 27, 1997. EPA appreciates your response. However, there are two items in the FEIS that warrant attention. The first item is a direct follow-up response to an issue raised in our DEIS comment letter. The second item is based on new information presented in the FEIS.

We acknowledge that pit wall slope stability does not appear to be a current or foreseeable problem in the near future. Upon mine abandonment and reclamation, the area will return to public use. As the EIS states, berms will be created around accessible portions of the pit. For reasons of public safety we ask that the BLM include plans for continued monitoring and possible mitigation of the abandoned pits. Monitoring of berm adequacy over time and periodic inspection of pit slopes should be done, with contingencies for stabilization if acute hazards are noted.

We are also concerned about the projected post-mining pit lake chemistry as discussed in comment letter 2 of the FEIS (USDI, Geological Survey) and BLM's response. EPA commends BLM on provisions for pit water quality monitoring and possible backfilling of the pit to five feet above standing water should water quality problems develop. We agree that the water will probably not have a low pH. However, the FEIS states that evaporative concentration of pit water would occur. We are concerned about long term impacts to water quality and possible effects to the ecosystem. Evapoconcentration of neutral or alkaline waters can create toxic conditions with high concentrations of such constituents as arsenic, selenium and fluorine. Concentration to toxic levels may take hundreds of years. Prior to release of pit backfilling

surety obligations, BLM should assure that long-term pit lake chemistry will not have significant environmental impacts.

To address our concerns, we recommend that a predictive pit lake model be completed near time of closure to look at projected water chemistry for an approximate 400-year period. Despite the alleged unreliability of hydrogeochemical models (FEIS, pg. 7-17), comparison of measured verses predicted concentrations at some Nevada mines shows good correlation (*Pit lake water quality in the western United States: An Analysis of chemogenetic trends*, Mining Engineering, June 1997). As a companion study, projected hydrogeochemistry should be used to conduct an ecological risk assessment using appropriate indicator species.

We appreciate the opportunity to review this FEIS, and ask that the Record of Decision (ROD) acknowledges our mitigation recommendations as per guidelines provided at 40 CFR 1505.2 and 1505.3. Please send one copy of the ROD to my attention (code: CMD-2) at the letterhead address. Should you have any questions, please contact me at (415) 744-1584, or Karl Kanbergs at (415) 744-1483.

Sincerely,

A handwritten signature in black ink, appearing to read "David J. Farrel", with a small "for" written below the signature.

David J. Farrel, Chief  
Federal Activities Office

002496/97-332

cc: Randy Scott, County of San Bernardino Planning Department